

## Production - Natural Gas STAR Annual Report - 2007

### Company Information

Company Name: **Occidental Oil and Gas Corporation**  
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Natural Gas

✓ ISTAR 6/10/08 RL  
✓ Access 6/20/08 RL  
✓ QA/QC OF 6/13/08

Company Information Updated: No

### Activities Reported

BMP1: No BMP2: No BMP3: Yes

Total Methane Emission Reductions Reported This Year: 4,760,488

Previous Years' Activities Reported: No

### Period Covered by Report

From: 01/01/2007

To: 12/31/2007

### Additional Comments

**BMP3: Partner Reported Opportunities (PROs)**

**Current Year Activities**

**A. Facility/location identifier information:**

Tidelands/California

**B. Description of PRO**

Please specify the technology or practice that was implemented:

**Catalytic converter installation (10 years) ✓**

Please describe how your company implemented this PRO:

**Substitution of regular ICEs with ICEs with the best available control technology ✓**

**C. Level of Implementation**

Number of units installed: **3 units ✓**

**D. Methane Emissions Reduction**

Methane Emissions Reduction: **7,088 Mcf/year ✓**

Basis for the emissions reduction estimate: **Calculation using manufacturer specifications**

**E. Are these emissions reductions a one-year reduction or a multi-year reduction?**

One-year      ☒ Multi-year

**If Multi-year:**

Partner will report this activity once and let EPA automatically calculate future emission reductions based on sunset date duration.

✓ Partner will report this activity annually up to allowed sunset date.

**F. Cost Summary**

Estimated cost of implementing the PRO (including equipment and labor): \$ \_\_\_\_\_

**G. Total Value of Gas Saved**

Value of Gas Saved: \$ 49,616 ✓

\$ / Mcf used: \$ 7.00

**H. Planned Future Activities**

To what extent do you expect to implement this PRO next year?: \_\_\_\_\_

**Previous Years' Activities**

Year	Frequency of practice or # of Installations	Total Cost * (\$)	Estimated Reductions (Mcf/Yr)	Value of Gas Saved (\$)

\* Total cost of practice/activity (including equipment and labor)

**Additional Comments**

**BMP3: Partner Reported Opportunities (PROs)**

**Current Year Activities**

**A. Facility/location identifier information:**

Elk Hills/ California

**B. Description of PRO**

Please specify the technology or practice that was implemented:

**Catalytic converter installation (10 years)**

Please describe how your company implemented this PRO:

**Installation of NSCR system on ICEs. ✓**

**C. Level of Implementation**

Number of units installed: **26 units ✓**

**D. Methane Emissions Reduction**

Methane Emissions Reduction: **8,966 Mcf/year ✓**

Basis for the emissions reduction estimate: **Actual field measurement ✓**

**E. Are these emissions reductions a one-year reduction or a multi-year reduction?**

One-year      ✓    ✓    Multi-year

**If Multi-year:**

Partner will report this activity once and let EPA automatically calculate future emission reductions based on sunset date duration.

✓ Partner will report this activity annually up to allowed sunset date.

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### F. Cost Summary

Estimated cost of implementing the PRO (including equipment and labor): \$ 1,388,400 ✓

### G. Total Value of Gas Saved

Value of Gas Saved: \$ 62,762 ✓

\$ / Mcf used: \$ 7.00

### H. Planned Future Activities

To what extent do you expect to implement this PRO next year?: \_\_\_\_\_

### Previous Years' Activities

Year	Frequency of practice or # of Installations	Total Cost * (\$)	Estimated Reductions (Mcf/Yr)	Value of Gas Saved (\$)

\* Total cost of practice/activity (including equipment and labor)

Additional Comments

**BMP3: Partner Reported Opportunities (PROs)**

**Current Year Activities**

**A. Facility/location identifier information:**

Elk Hills/ California ✓

**B. Description of PRO**

Please specify the technology or practice that was implemented:

Convert gas pneumatic controls to instrument air (10 years) ✓

Please describe how your company implemented this PRO:

Replace gas pneumatic controls with instrument air controls

**C. Level of Implementation**

Number of units installed: 126 units

**D. Methane Emissions Reduction**

Methane Emissions Reduction: 90,140 Mcf/year ✓

Basis for the emissions reduction estimate: Calculation using manufacturer specifications ✓

**E. Are these emissions reductions a one-year reduction or a multi-year reduction?**

One-year      ✓✓ Multi-year

**If Multi-year:**

Partner will report this activity once and let EPA automatically calculate future emission reductions based on sunset date duration.

✓ Partner will report this activity annually up to allowed sunset date.

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### F. Cost Summary

Estimated cost of implementing the PRO (including equipment and labor): \$ 1,170,000 ✓

### G. Total Value of Gas Saved

Value of Gas Saved: \$ 630,980 ✓

\$ / Mcf used: \$ 7.00

### H. Planned Future Activities

To what extent do you expect to implement this PRO next year?: \_\_\_\_\_

### Previous Years' Activities

Year	Frequency of practice or # of Installations	Total Cost * (\$)	Estimated Reductions (Mcf/Yr)	Value of Gas Saved (\$)

\* Total cost of practice/activity (including equipment and labor)

### Additional Comments

**BMP3: Partner Reported Opportunities (PROs)**

**Current Year Activities**

**A. Facility/location identifier information:**

Elk Hills/ California ✓

**B. Description of PRO**

Please specify the technology or practice that was implemented:

**DI&M: leak detection using lower emission threshold** ✓

Please describe how your company implemented this PRO:

**Quarterly fugitive monitoring.** ✓

**C. Level of Implementation**

**D. Methane Emissions Reduction**

Methane Emissions Reduction: ✓463,488 Mcf/year

Basis for the emissions reduction estimate: **Other** ✓

**E. Are these emissions reductions a one-year reduction or a multi-year reduction?**

✓✓ One-year

Multi-year

**If Multi-year:**

Partner will report this activity once and let EPA automatically calculate future emission reductions based on sunset date duration.

Partner will report this activity annually up to allowed sunset date.



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### F. Cost Summary

Estimated cost of implementing the PRO (including equipment and labor): \$ \_\_\_\_\_

### G. Total Value of Gas Saved

Value of Gas Saved: \$ 3,244,416 ✓

\$ / Mcf used: \$ 7.00

### H. Planned Future Activities

To what extent do you expect to implement this PRO next year?: ✓ Pro is expected to continue being implemented next year

### Previous Years' Activities

Year	Frequency of practice or # of Installations	Total Cost * (\$)	Estimated Reductions (Mcf/Yr)	Value of Gas Saved (\$)

\* Total cost of practice/activity (including equipment and labor)

Additional Comments

**BMP3: Partner Reported Opportunities (PROs)**

**Current Year Activities**

**A. Facility/location identifier information:**

Thums/California ✓

**B. Description of PRO**

Please specify the technology or practice that was implemented:

DI&M: leak detection using lower emission threshold ✓

Please describe how your company implemented this PRO:

Quarterly fugitive monitoring ✓

**C. Level of Implementation**

**D. Methane Emissions Reduction**

Methane Emissions Reduction: ✓ 13,841 Mcf/year

Basis for the emissions reduction estimate: Other

**E. Are these emissions reductions a one-year reduction or a multi-year reduction?**

✓✓ One-year

Multi-year

**If Multi-year:**

Partner will report this activity once and let EPA automatically calculate future emission reductions based on sunset date duration.

Partner will report this activity annually up to allowed sunset date.

**F. Cost Summary**

Estimated cost of implementing the PRO (including equipment and labor): \$ \_\_\_\_\_

**G. Total Value of Gas Saved**

Value of Gas Saved: \$ 96,887 ✓

\$ / Mcf used: \$ 7.00

**H. Planned Future Activities**

To what extent do you expect to implement this PRO next year?: \_\_\_\_\_

**Previous Years' Activities**

Year	Frequency of practice or # of Installations	Total Cost * (\$)	Estimated Reductions (Mcf/Yr)	Value of Gas Saved (\$)

\* Total cost of practice/activity (including equipment and labor)

**Additional Comments**

**BMP3: Partner Reported Opportunities (PROs)**

**Current Year Activities**

**A. Facility/location identifier information:**

Tidelands/ California

**B. Description of PRO**

Please specify the technology or practice that was implemented:

**DI&M: leak detection using lower emission threshold** ✓

Please describe how your company implemented this PRO:

**Quarterly fugitive monitoring** ✓

**C. Level of Implementation**

**D. Methane Emissions Reduction**

Methane Emissions Reduction: ✓ **7,874 Mcf/year**

Basis for the emissions reduction estimate: **Other**

**E. Are these emissions reductions a one-year reduction or a multi-year reduction?**

✓ ✓ **One-year**                      Multi-year

**If Multi-year:**

Partner will report this activity once and let EPA automatically calculate future emission reductions based on sunset date duration.

Partner will report this activity annually up to allowed sunset date.

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### F. Cost Summary

Estimated cost of implementing the PRO (including equipment and labor): \$ \_\_\_\_\_

### G. Total Value of Gas Saved

Value of Gas Saved: \$ 55,118 ✓

\$ / Mcf used: \$ 7.00

### H. Planned Future Activities

To what extent do you expect to implement this PRO next year?: \_\_\_\_\_

### Previous Years' Activities

Year	Frequency of practice or # of Installations	Total Cost * (\$)	Estimated Reductions (Mcf/Yr)	Value of Gas Saved (\$)

\* Total cost of practice/activity (including equipment and labor)

Additional Comments

**BMP3: Partner Reported Opportunities (PROs)**

**Current Year Activities**

**A. Facility/location identifier information:**

Rocky Mountains

**B. Description of PRO**

Please specify the technology or practice that was implemented:

Green completions ✓

Please describe how your company implemented this PRO:

After a well is completed, temporary equipment including tanks are set on site to capture the reservoir fluids, cuttings, etc. The natural gas containing methane is then routed from the tanks to a gas sales line instead of venting to the atmosphere. In some instances where a gas line is not available, the gas may be routed to a flare.

**C. Level of Implementation**

**D. Methane Emissions Reduction**

Methane Emissions Reduction: 4,146,590 Mcf/year ✓

Basis for the emissions reduction estimate: Other ✓

**E. Are these emissions reductions a one-year reduction or a multi-year reduction?**

☒ One-year

☐ Multi-year

**If Multi-year:**

Partner will report this activity once and let EPA automatically calculate future emission reductions based on sunset date duration.

Partner will report this activity annually up to allowed sunset date.

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### F. Cost Summary

Estimated cost of implementing the PRO (including equipment and labor): \$ \_\_\_\_\_

### G. Total Value of Gas Saved

Value of Gas Saved: \$ 20,732,950 ✓

\$ / Mcf used: \$ 5.00

### H. Planned Future Activities

To what extent do you expect to implement this PRO next year?: \_\_\_\_\_

### Previous Years' Activities

Year	Frequency of practice or # of Installations	Total Cost * (\$)	Estimated Reductions (Mcf/Yr)	Value of Gas Saved (\$)

\* Total cost of practice/activity (including equipment and labor)

### Additional Comments

**BMP3: Partner Reported Opportunities (PROs)**

**Current Year Activities**

**A. Facility/location identifier information:**

Hugoton/Kansas ✓

**B. Description of PRO**

Please specify the technology or practice that was implemented:

Install electric motors (10 years) ✓

Please describe how your company implemented this PRO:

Natural gas driven engines on pumps were replaced by electric motors. ✓

**C. Level of Implementation**

Number of units installed: 873 units

**D. Methane Emissions Reduction**

Methane Emissions Reduction: 2,869 Mcf/year ✓

Basis for the emissions reduction estimate: Other ✓

**E. Are these emissions reductions a one-year reduction or a multi-year reduction?**

One-year      ✓ ✓ Multi-year

**If Multi-year:**

- ✓ Partner will report this activity once and let EPA automatically calculate future emission reductions based on sunset date duration.

Partner will report this activity annually up to allowed sunset date.



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### F. Cost Summary

Estimated cost of implementing the PRO (including equipment and labor): \$ \_\_\_\_\_

### G. Total Value of Gas Saved

Value of Gas Saved: \$ 20,083 ✓

\$ / Mcf used: \$ 7.00

### H. Planned Future Activities

To what extent do you expect to implement this PRO next year?: \_\_\_\_\_

### Previous Years' Activities

Year	Frequency of practice or # of Installations	Total Cost * (\$)	Estimated Reductions (Mcf/Yr)	Value of Gas Saved (\$)

\* Total cost of practice/activity (including equipment and labor)

### Additional Comments

**BMP3: Partner Reported Opportunities (PROs)**

**Current Year Activities**

**A. Facility/location identifier information:**

Permian/Texas ✓

**B. Description of PRO**

Please specify the technology or practice that was implemented:

Install electric motors (10 years) ✓

Please describe how your company implemented this PRO:

Gas driven pump engines and gas compressors were replaced by electric motors ✓

**C. Level of Implementation**

**D. Methane Emissions Reduction**

Methane Emissions Reduction: 16,866 ✓ Mcf/year

Basis for the emissions reduction estimate: Other ✓

**E. Are these emissions reductions a one-year reduction or a multi-year reduction?**

One-year      ✓      Multi-year

**If Multi-year:**

Partner will report this activity once and let EPA automatically calculate future emission reductions based on sunset date duration.

✓ Partner will report this activity annually up to allowed sunset date.

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### F. Cost Summary

Estimated cost of implementing the PRO (including equipment and labor): \$ \_\_\_\_\_

### G. Total Value of Gas Saved

Value of Gas Saved: \$ 118,062 ✓

\$ / Mcf used: \$ 7.00

### H. Planned Future Activities

To what extent do you expect to implement this PRO next year?: \_\_\_\_\_

### Previous Years' Activities

Year	Frequency of practice or # of Installations	Total Cost * (\$)	Estimated Reductions (Mcf/Yr)	Value of Gas Saved (\$)

\* Total cost of practice/activity (including equipment and labor)

### Additional Comments

**BMP3: Partner Reported Opportunities (PROs)**

**Current Year Activities**

**A. Facility/location identifier information:**

Tidelands/ California ✓

**B. Description of PRO**

Please specify the technology or practice that was implemented:

Install electric motors (10 years) ✓

Please describe how your company implemented this PRO:

Replace gas driven engines with electric motors ✓

**C. Level of Implementation**

**D. Methane Emissions Reduction**

Methane Emissions Reduction: 2,658 Mcf/year ✓

Basis for the emissions reduction estimate: Calculation using manufacturer specifications ✓

**E. Are these emissions reductions a one-year reduction or a multi-year reduction?**

One-year      ✓ Multi-year

**If Multi-year:**

Partner will report this activity once and let EPA automatically calculate future emission reductions based on sunset date duration.

✓ Partner will report this activity annually up to allowed sunset date.

## Production - Natural Gas STAR Annual Report - 2007

### F. Cost Summary

Estimated cost of implementing the PRO (including equipment and labor): \$ \_\_\_\_\_

### G. Total Value of Gas Saved

Value of Gas Saved: \$ 18,606 ✓

\$ / Mcf used: \$ 7.00

### H. Planned Future Activities

To what extent do you expect to implement this PRO next year?: \_\_\_\_\_

### Previous Years' Activities

Year	Frequency of practice or # of Installations	Total Cost * (\$)	Estimated Reductions (Mcf/Yr)	Value of Gas Saved (\$)

\* Total cost of practice/activity (including equipment and labor)

Additional Comments

**BMP3: Partner Reported Opportunities (PROs)**

**Current Year Activities**

**A. Facility/location identifier information:**

Elk Hills/ California ✓

**B. Description of PRO**

Please specify the technology or practice that was implemented:

Protective tank coatings to reduce leaks (10 years) ✓

Please describe how your company implemented this PRO:

Install protective tank coats ✓

**C. Level of Implementation**

Number of units installed: 19 units ✓

**D. Methane Emissions Reduction**

Methane Emissions Reduction: 108 Mcf/year ✓

Basis for the emissions reduction estimate: Other ✓

**E. Are these emissions reductions a one-year reduction or a multi-year reduction?**

One-year      ✓ ✓ Multi-year

**If Multi-year:**

Partner will report this activity once and let EPA automatically calculate future emission reductions based on sunset date duration.

✓ Partner will report this activity annually up to allowed sunset date.

**F. Cost Summary**

Estimated cost of implementing the PRO (including equipment and labor): \$ 1,000 ✓

**G. Total Value of Gas Saved**

Value of Gas Saved: \$ 756 ✓

\$ / Mcf used: \$ 7.00

**H. Planned Future Activities**

To what extent do you expect to implement this PRO next year?: \_\_\_\_\_

**Previous Years' Activities**

Year	Frequency of practice or # of Installations	Total Cost * (\$)	Estimated Reductions (Mcf/Yr)	Value of Gas Saved (\$)

\* Total cost of practice/activity (including equipment and labor)

**Additional Comments**

Occidental Oil and Gas Corporation  
Additional Accomplishments